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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,745	06/27/2003	Steven D. Sardella	130-015	7723
7590 10/19/2004				
Steubing McGuinness & Manaras LLP 30 Nagog Park Drive Acton, MA 01720			EXAMINER VIGUSHIN, JOHN B	
			ART UNIT 2841	PAPER NUMBER

DATE MAILED: 10/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/608,745	SARDELLA ET AL.	
	Examiner	Art Unit	
	John B. Vigushin	2841	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 19-23 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-18 is/are allowed.
- 6) ☒ Claim(s) 1,7,9 and 24 is/are rejected.
- 7) ☒ Claim(s) 2-6,8,10-12,25 and 26 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| <p>1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</p> <p>2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</p> <p>3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date _____.</p> | <p>4) <input type="checkbox"/> Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.</p> <p>5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)</p> <p>6) <input type="checkbox"/> Other: _____.</p> |
|--|---|

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Claims 1-18 and 24-26 (Group I) in the reply filed on 13 August 2004 is acknowledged. Claims 19-23 have been withdrawn from consideration.

Specification

2. The disclosure is objected to because of the following informalities:

On p.11, line 15, "Fig. 9" should be changed to --Fig. 10--.

Appropriate correction is required.

Claim Objections

3. Claims 8 and 26 are objected to because of the following informalities:

As to Claim 8, line 1: --to-- should be inserted after "coupled".

As to Claim 26, line 1: "modules" should be changed to --module--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant

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regards as the invention. It is not clear how the first pluggable module is coupled to the circuit board; by means of a first connector on the circuit board, or, by means of the first connector on the riser board? This rejection may be easily overcome by changing "for coupling" to --coupled-- in line 3.

Rejections Based On Prior Art

5. The following references were relied upon for the rejection hereinbelow:

Cloonan et al. (US 6,457,978 B1)

Homer et al. (US 6,454,585 B1)

Eddy et al. (US 6,241,530 B1)

Beatty et al. (US 5,233,502)

Frielinghaus et al. (US 5,181,679)

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claim 24 is rejected under 35 U.S.C. 102(b) as being anticipated by Eddy et al.

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Eddy et al. discloses an enclosure 10 having a slot thereon for accepting a pluggable module 12 (col.1: 14-24; col.3: 1-5), wherein the pluggable module 12 can be inserted in a plurality of positions in the slot (Figs. 1 and 3; col.3: 45-61).

8. Claim 24 is rejected under 35 U.S.C. 102(b) as being anticipated by Frielinghaus et al.

Frielinghaus et al. discloses an enclosure having a slot thereon for accepting a pluggable module 40, wherein the pluggable module 40 can be inserted in a plurality of positions in the slot (Fig. 8; col.5: 52-64; col.6: 22-29).

9. Claim 24 is rejected under 35 U.S.C. 102(b) as being anticipated by Beatty et al.

Beatty et al. discloses an enclosure 3 having a slot thereon for accepting a pluggable module 4, wherein the pluggable module 4 can be inserted in a plurality of positions in the slot (Fig. 1; col.3: 7-10 and 26-31).

10. Claim 24 is rejected under 35 U.S.C. 102(e) as being anticipated by Homer et al.

Homer et al. discloses an enclosure 190 having a slot thereon for accepting a pluggable module 18, wherein the pluggable module 18 can be inserted in a plurality of positions in the slot (Fig. 4; col.7: 35-39).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claims 1 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cloonan et al. in view of Eddy et al.

A) As to Claim 1:

I. Cloonan et al. discloses: a circuit board (i.e., the CMTS backplane with card connectors 502, 504, 506, 508 and 510, as taught in Fig. 5 and col.8: 60-col.9: 2, for interconnecting the modular cable interface cards 620 for home cable use; col.5: 27-43; col.8: 11-16); a plurality of pluggable modules 620 coupled to the circuit board, the plurality of pluggable modules insertable through an enclosure 500 in which the circuit board (i.e., backplane) resides (Fig. 5; col.8: 11-16; col.8: 60-col.9: 2); a first of the pluggable modules 620 being coupled to the circuit board via a first connector 502, 506, 510 (Fig. 5); a second of the pluggable modules 620 being coupled to the circuit board via a second connector 504, 508 (Fig. 5) such that the pluggable module 620 is laterally offset from the first pluggable module 620 (Fig. 5; col.8: 60-col.9: 5; col.9: 11-27).

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II. Cloonan et al. does not disclose the side-by-side slots in enclosure 500 through which the first and second pluggable modules 620 are inserted and connected to the enclosure backplane circuit board.

III. Eddy et al. discloses, as well-known in the art, an enclosure with a backplane circuit board 14, wherein the enclosure includes side-by-side slots 1-N (Fig. 1) through which pluggable modules 12 (Fig. 2) are inserted, the side-by-side slots comprising a pair of side walls for guiding the modules 12 through the slots and supporting the modules 12 when interconnected with backplane circuit board 14 for the purpose of ensuring a reliable electrical and mechanical connection of the pluggable modules to the backplane assembly (col.1: 14-24; col.3: 1-5).

IV. Since Cloonan et al. and Eddy et al. are in the same art of connecting pluggable modules to a backplane assembly, the side-by-side slot solution to the problem of ensuring a reliable electrical and secure mechanical connection of the pluggable modules to the backplane assembly, disclosed as old and well-known in the art and utilized by Eddy et al., would have been readily recognized as a reliability enhancement in the pertinent art of Cloonan et al.

V. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the backplane assembly enclosure 500 of Cloonan et al. with the side-by-side enclosure slots of Eddy et al. in order to ensure a reliable electrical and secure mechanical connection of the pluggable modules to the backplane circuit board in Cloonan et al.

B) As to Claim 7:

I. Cloonan et al. discloses: a first pluggable module 620 (Fig. 6) for coupling to a circuit board (i.e., the CMTS backplane with card connectors 502, 504, 506, 508 and 510, as taught in Fig. 5 and col.8: 60-col.9: 2, for interconnecting the modular cable interface cards 620 for home cable use; col.5: 27-43; col.8: 11-16) via a first connector 502, 506 or 510, the circuit board residing in an enclosure 500 for inserting pluggable modules 620 therethrough for coupling to the circuit board (Fig. 5), such that when the first pluggable module 620 is coupled to the circuit board, it resides side-by-side but laterally offset from a second pluggable module 620 coupled to the circuit board (Fig. 5; col.8: 60-col.9: 5; col.9: 11-27).

II. Cloonan et al. does not disclose the side-by-side slots in enclosure 500 through which the first and second pluggable modules 620 are inserted and connected to the enclosure backplane circuit board.

III. Eddy et al. discloses, as well-known in the art, an enclosure with a backplane circuit board 14, wherein the enclosure includes side-by-side slots 1-N (Fig. 1) through which pluggable modules 12 (Fig. 2) are inserted, the side-by-side slots comprising a pair of side walls for guiding the modules 12 through the slots and supporting the modules 12 when interconnected with backplane circuit board 14 for the purpose of ensuring a reliable electrical and mechanical connection of the pluggable modules to the backplane assembly (col.1: 14-24; col.3: 1-5).

IV. Since Cloonan et al. and Eddy et al. are in the same art of connecting pluggable modules to a backplane assembly, the side-by-side slot solution to the problem of ensuring a reliable electrical and secure mechanical connection of the

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pluggable modules to the backplane assembly, disclosed as old and well-known in the art and utilized by Eddy et al., would have been readily recognized as a reliability enhancement in the pertinent art of Cloonan et al.

V. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the backplane assembly enclosure 500 of Cloonan et al. with the side-by-side enclosure slots of Eddy et al. in order to ensure a reliable electrical and secure mechanical connection of the pluggable modules to the backplane circuit board in Cloonan et al.

Allowable Subject Matter

14. Claims 13-18 have been allowed.

15. Claims 2-6, 8, 10-12 and 25-26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

16. Claim 9 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

17. The following is a statement of reasons for the indication of allowable subject matter:

As to Claims 2 and 4-6, patentability resides in the limitation wherein *the second right angle connector is inverted relative to the first right angle connector*, in combination with the other limitations of the broadest claim, Claim 2.

As to Claims 3 and 9, patentability resides in the limitation wherein *the first pluggable module is coupled to the circuit board via a first connector in the first of the two rows of riser board connectors, and wherein the second pluggable module is coupled to the circuit board via a second connector in the second of the two rows of riser board connectors*, in combination with the other limitations of Claims 3 and 9, respectively.

As to Claims 8 and 10-12, patentability resides in the limitation wherein *the second right angle connector is inverted relative to the first right angle connector*, in combination with the other limitations of the broadest claim, Claim 8.

As to Claims 13-18, patentability resides in *the first pluggable module being coupled to the circuit board via a right angle connector such that the first pluggable module is in-line with the circuit board and the second pluggable module being coupled to the circuit board via a similar but inverted right angle connector such that the second pluggable module is laterally offset from the circuit board*, in combination with the other limitations of base Claim 13.

As to Claims 25-26, patentability resides in the limitation wherein *the pluggable module may be laterally in-line with or laterally offset from the circuit board depending upon the position of the connector on the pluggable module*, in combination with the other limitations of the broadest claim, Claim 25.

18. As allowable subject matter has been indicated, applicant's reply must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 CFR 1.111(b) and MPEP § 707.07(a).

Conclusion

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a) Huang (US 6,644,979 B2) discloses a riser board 20 by means of which pluggable modules 30 and 50 are coupled to circuit board 10 such that pluggable module 50 is in-line with circuit board 10 and pluggable module 30 is laterally offset from circuit board 10 (Figs. 3 and 4) but does not disclose that first and second pluggable modules 30 and 50 are coupled to circuit board 10 via right-angled connectors (Figs. 5-8).

b) Mistry et al. (US 5,488,541) discloses a first row of a plurality of first pluggable modules 10 mounted on a front face of backplane 40 with right-angled connectors and a second row of first pluggable modules 12 mounted on the front face of backplane 40 with right-angled connectors and a first row of second pluggable modules 46 mounted on a back face of backplane 40 with right-angled connectors such that first pluggable modules 10 and second pluggable modules 46 are laterally offset but not side-by-side, and second row of second pluggable modules 42 mounted on a back face of backplane 40 with right-angled connectors such that first pluggable modules 12 and second pluggable modules 42 are laterally offset but not side-by-side (Figs. 3 and 4; col.2: 61-col.3: 3).

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c) Chen (US 5,305,182) discloses a motherboard 11 to which first and second pluggable modules 60 are mounted by right-angled connectors, wherein both modules 60 are laterally offset from motherboard 11 (Fig. 2).


d) Uehara et al. (US 5,017,146) discloses two or more laterally offset pluggable modules 11 mounted to a circuit board 16 via right-angled connectors (Figs. 5, 7 and 8) but does not teach an enclosure with side-by-side slots through which the pluggable modules are inserted and does not teach that one of the pluggable modules 11 is in-line with circuit board 16 while the other pluggable module 11 is laterally offset from circuit board 16 due to a similar but inverted right-angled connector.

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John B. Vigushin whose telephone number is 571-272-1936. The examiner can normally be reached on 8:30AM-5:00PM Mo-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on 571-272-1957. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


John B. Vigushin
Primary Examiner
Art Unit 2841

jbv
October 13, 2004